REPLY BRIEF		
First Named Inventor: **Philip D. Nguyen**	Docket Number: **2003-IP-010380U1**	
Application Number: **10/691,319**	Art Unit: **1715**	Conf. Number: **5926**
Filing Date: **October 22, 2003**	Examiner: **Elena Tsoy Lightfoot**	
Title: **Methods for Reducing Particulate Density and Methods of Using Reduced-Density Particulates**		

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir,

REPLY BRIEF PURSUANT TO 37 C.F.R. § 41.41

This reply brief is submitted in support of Appellant's Appeal Brief dated December 23, 2010, following a Notice of Appeal and Pre-Appeal Brief dated October 21, 2010. The appeal stems from the rejections in the Final Office Action dated July 21, 2010 (the "Final Office Action"), the Advisory Action dated August 31, 2010 (the "Advisory Action"), the Notice of Panel Decision from Pre-Appeal Brief Review dated November 12, 2010, and the Examiner's Answer dated February 9, 2011.

Pursuant to 37 C.F.R. § 41.41, this Reply is timely if filed within two months from the date of the Examiner's Answer, and thus is timely if filed on or before April 9, 2011.

I. STATUS OF CLAIMS

The present application, Serial No. 10/691,319 (hereinafter "the Application"), was filed October 22, 2003 and included claims 1–64, claims 65-77 were added during prosecution. Claims 1-17 were cancelled following a restriction requirement and claims 20-24, 27, 37-41, 44, 50-61, 63-64, and 67 are withdrawn as directed to a non-elected species. In addition, claims 30, 33, 34, 47, and 62 were cancelled during prosecution. Claims 18-19, 25-26, 28-29, 31-32, 35-36, 42-43, 45-46, 48-49, 65-66 and 68-77 are finally rejected and appealed. A listing of all appealed claims was provided in Appendix A to Appellant's Opening Brief on Appeal.

II. GROUND OF REJECTION TO BE REVIEWED ON APPEAL

1. Whether claims 18-19, 25, 28, 31-32, 35-36, 42, 45, 48-49, 65-66, 68-73, 75, and 77 are unpatentable under 35 U.S.C. § 103(a) as obvious over U.S. Patent No. 5,381,864 to Nguyen *et al.* (hereinafter "*Nguyen*") in view of U.S. Patent No. 4,969,523 to Martin *et al.* (hereinafter "*Martin*"), further in view of U.S. Patent No. 4,493,875 to Beck *et al.* (hereinafter "*Beck*").

2. Whether claims 18-19, 25, 28, 31-32, 35-36, 42, 45, 48-49, 65-66, 68-73, 75, and 77 are unpatentable under 35 U.S.C. § 103(a) as obvious over *Nguyen* in view of *Martin* and *Beck*, and further in view of U.S. Patent No. 5,585,524 to Sielcken *et al.* (hereinafter "*Sielcken*").

3. Whether claims 18-19, 25-26, 28, 31-32, 35-36, 42-43, 45, 48-49, 65-66, 68-75, and 77 are unpatentable under 35 U.S.C. § 103(a) as obvious over U.S. Patent No. 5,128,390 to Murphey *et al.* (hereinafter "*Murphey '390*") in view of *Martin* and *Beck*, and further in view of *Sielcken*.

4. Whether claims 26, 43, and 74 are unpatentable under 35 U.S.C. § 103(a) as obvious over *Nguyen* in view of *Martin* and *Beck*, or over *Nguyen* in view of *Martin* and *Beck*, further in view of *Sielcken* or over *Murphey '390* in view of *Martin* and *Beck*, further in view of *Sielcken*, and further in view of U.S. Patent No. 4,665,988 to Murphey *et al*. (hereinafter "*Murphey '988*").

5. Whether claims 28-29, 45-46, and 75-76 are unpatentable under 35 U.S.C. § 103(a) as obvious over *Nguyen* in view of *Martin* and *Beck* or over *Nguyen* in view of *Martin* and *Beck*, further in view of *Sielcken* or over *Murphey '390*, in view of *Martin* and *Beck*, further in view of *Sielcken*, and further in view of U.S. Patent Application No. 2002/0048676 to McDaniel *et al*. (hereinafter "*McDaniel*").

III. SUPPLEMENTAL ARGUMENT

A. The Proposed Combination Renders *Nguyen* Unsatisfactory for Its Intended Purpose

The Examiner's Answer states that Appellant's arguments that combining *Nguyen*, *Martin*, and *Beck* would render *Nguyen* unsatisfactory is not accepted because (1) *Nguyen* does not teach that the small and large particles should be kept separate and (2) *Nguyen* teaches that the particulate blend can be consolidated into a particulate bed. (Examiner's Answer at pp. 20-23). Appellant agrees that *Nguyen* is directed toward the use of a treating composition comprising a particulate blend having large and small particles. (*See Nguyen*, Abstract and col. 4, ll. 41-44). Appellant also agrees that the blend of particles in *Nguyen* can be formed into a consolidated bed of particulates. However, Appellant does not agree that these teachings then can be used to make composite particulates wherein large particles are adhered to smaller particles before the blend is placed down hole. Because the principle of operation of *Nguyen* clearly relies upon the inclusion of a blend of particulates, and the particulates of Nguyen would

not be satisfactory for their intended purpose if only a single-sized particulate (which would result from the placement of large density-reducing materials to the surface of proppant) were used. *Nguyen* does not describe a "composite particle" or that the small particulate material and the large particulate material ever adhere to one another prior to being placed in the specific zone of interest. Thus in contrast to the Examiner's assertion, *Nguyen* does describe that the large particulate material and the small particulate material are present separately from each other in the stream before being placed in the zone of interest, even in the presence of a hardenable resin.

B. The teachings of *Martin* and *Beck* are Contradictory

The teachings of *Martin* contradict those of *Beck*. With respect to *Martin*, the invention is directed towards the use of at least first particles having a first density and second particles having a second density (*i.e.*, two separate particles). (*See Martin* Abstract). The particles can be injected as a blend or as sequential slugs. (*Id.*, (emphasis added)). The two different densities are preferably chosen so that the "first density [is] less than the density of the carrier liquid and . . . [the] second density [] is greater than the density of the carrier liquid." (*Martin* at col. 2, ll. 18-20). In this manner, the upper portions of the perforations are packed predominantly by the less dense particles while the lower portions of the perforations are predominantly packed by the more dense particles helping prevent voids. In other words, the less dense particles predominantly float to pack the upper portion of the perforations while the more dense particles predominantly sink to pack the lower portion of the perforations. *Martin* thus relies on the density differences between the particles to improve the packing efficiency in the perforations relative to using a single density particle such as sand. (*See Id.* at col. 4, ll. 9-14). Thus, the principle of operation of *Martin* clearly relies upon the

inclusion of a blend of at least two separate particles or sequential slugs of two separate particles with distinct differences in density relative to the carrier fluid. The particles of *Martin* would not function the same if only a single sized particle with a single density were used.

Martin is directed to "the use of particulate materials and carrier liquids with more closely matched density . . ." (*Martin*, col. 1, ll. 63-68). *Martin* specifically mentions that "the cost of these specialized materials greatly exceeds the cost of simple sand packing materials." (*Martin*, col. 2, ll. 6-8). This is the reason that *Martin* is directed towards a mixture of individual particles with two distinct densities and not a single, composite particle. At no point does *Martin* mention the formation of a composite particle, the use of any type of binder to form a composite particle, or the need for a particle of a "middle" density. Such a characterization ignores the stated purpose of *Martin*. Thus, *Martin* is directed towards the use of at least two separate particles, and not any type of composite particle.

Beck is directed to composite proppant formed by mixing core particles with adhesive and coating the core particles with hollow microparticles to adhere the microparticles to the coated core. (*Beck* at col. 2, l. 65 – col. 3, l. 7). These particles are cured to form a single sized particulate with a density approaching the density of the carrier fluid. (*Id.*). Thus, applying the teachings of *Beck* to the particle blend or sequential slugs of *Murphey '390* in view of *Martin* would result in the formation of a single composite particle with a single density prior to being placed in the wellbore. In other words, the combined particles would have a single size and a single density, which is contrary to the purpose and functionality of the invention of *Martin*. It should

therefore be clear that the individual references teach away from the combination of the references as presented by the Examiner.

IV. CONCLUSION

In light of the foregoing, Appellant respectfully requests that the final rejection of the pending claims should be reversed and the application be remanded for allowance of the pending claims, or, alternatively, remand the application for further examination if appropriate references can be found by the Examiner.

Appellant believes that no fees are due at this time. Should the Commissioner deem that any additional fees are due; the Commissioner is authorized to debit McDermott Will & Emery's Deposit Account No. 500417 (Reference No. 086108-0157).

Respectfully submitted,

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